

Appendix G

Correspondence

PSD Application Draft

brent.pace@bp.com

Fri 3/15/2013 1:30 PM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>;

 1 attachment

R1874640000-001-R.pdf;

James

Attached is a draft of the PSD Application. I wanted to send this to you ahead of time for our meeting next week. We still may make some minor changes to the application before submittal, but this is 99% complete.

Let me know if you have any questions before I see you on Tuesday.

Brent

PSD Project Association Information

Robinson, James C.

Thu 3/21/2013 4:24 PM

PSD

To: brent.pace@bp.com <brent.pace@bp.com>;

Cc: Barringer, Veronica <barrinv@dhec.sc.gov>;

Here is the guidance that Liz was referring to...

<http://www.epa.gov/region07/air/nsr/nsrmemos/maplwood.pdf>

Here is another link that may be helpful...

<https://www.federalregister.gov/articles/2010/04/15/2010-7534/prevention-of-significant-deterioration-psd-and-nonattainment-new-source-review-nsr-aggregation#h-12>

James C. Robinson, P.E.

Environmental Engineer

BAQ/Engineering Services Division

2600 Bull St., Columbia, SC 29201

Ph: 803-898-0660 Fax: 803-898-4079

Re: Calculating Realistic PM10 Emissions From Cooling Towers Doc

Robinson, James C.

Thu 3/28/2013 11:14 AM

PSD

To: brent.pace@bp.com <brent.pace@bp.com>;

Cc: Barringer, Veronica <barrinv@dhec.sc.gov>;

Hello Brent, we are ok with the use of this Cooling Tower emissions document; however, since none of the facilities on the list you provided are chemical facilities, please include a discussion in the PSD application as to why BP feels it appropriate to use.

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

On Wed, Mar 27, 2013 at 10:26 AM, Pace, Brent A <Brent.Pace@bp.com> wrote:

Please see the attached spreadsheet.

Cheers

Brent

From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]
Sent: Thursday, March 21, 2013 3:51 PM
To: Pace, Brent A
Cc: Veronica Barringer
Subject: Calculating Realistic PM10 Emissions From Cooling Towers Doc

Hey Brent could you please provide us where this document has been used and accepted, meaning which states. Thanks

James C. Robinson, P.E.
Environmental Engineer

Permit Actions Using Reisman/Frisbie Cooling Tower PM Emission Methodology

Facility Name	Company	State	Permit	Date
Union Power Station	Union Power	Arkansas	1861-AOP-R2	6/10/2005
Russell City Energy Center	Calpine Energy Corporation	California	N/A	N/A
Comanche Station	Public Service Company of Colorado	Colorado	96OPPB133	6/1/2012
Levy Nuclear Power Plant	Progress Energy Florida	Florida	PSD-FL-403	10/31/2012
Treasure Coast Energy Center	Florida Municipal Power Agency	Florida	PSD-FL-353	5/19/2006
Turkey Point Nuclear Power Station	Florida Power & Light	Florida	PSD-FL-409	4/26/2010
Vogtle Electric Generating Plant	Southern Nuclear Operating Compnay, Inc.	Georgia	4911-033-0030-V02-3	4/9/2010
NewGas Energy Center	KENTUCKY SYNGAS	Kentucky	N/A	9/17/2012
Brockton Power Company, LLC	Brockton Power Company, LLC	Massachusetts	4B0815	7/20/2011
Kemper County IGCC Project	Mississippi Power	Mississippi	N/A	9/1/2010
NatureWorks, LLC	NatureWorks, LLC	Nebraska	CP07-0018	N/A
San Juan Generating Station	Tuscon Electric Power Compnay	New Mexico	N/A	4/9/2012
PCS Nitrogen Ohio, L.P.	PCS Nitrogen Ohio, L.P.	Ohio	P0110310	8/8/2012
Kennecott Utah Copper	Kennecott Utah Copper	Utah	DAQE-ANO103460046-11	9/1/2012
Mountaineer Commercial Scale Carbon Capture and Storage Project	American Electric Power Service Corporation	West Virginia	N/A	N/A
Charter Street Heating Plant Rebuild Project	Wisconsin Department of Administration - Division of State Facilities	Wisconsin	N/A	3/1/2010

N/A - Not Available

Incremental Usage method for the No. 1 Oxidation Unit

Robinson, James C.

Thu 3/28/2013 4:12 PM

Sent Items

To: brent.pace@bp.com <brent.pace@bp.com>;

Hey Brent, internal discussion on the incremental usage approach resulted in the following. Incremental usage approach can only be used if the equipment or process is not being physically modified in any way. In the cases of incremental usage, the boiler or other utility is just being "cranked up" to provide more steam, electricity, etc., but there is no physical change taking place. Our position is that BP cannot use this approach for the #1 Ox Unit cooling tower, since it is being refurbished. BP will need to use the "normal" actual to future actual/potential method.

Please let me know if you have any questions about our position. Thanks!

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

RE: BP CR PSD Application Question

Doerner, Michael <MDoerner@trcsolutions.com>

Tue 4/9/2013 11:33 AM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>;

James;

Please give me a quick call so I get what you want. 864-234-9481

Michael A. Doerner
Air Quality Specialist



MDoerner@trcsolutions.com

30 Patewood Dr., Greenville, SC 29615

T: 864.234.9481 | F: 864.281.0288 | C: 864.884.2683

[LinkedIn](#) | [Twitter](#) | [Blog](#) | [Flickr](#) | www.trcsolutions.com

From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]

Sent: Tuesday, April 09, 2013 11:31 AM

To: Doerner, Michael

Subject: Re: BP CR PSD Application Question

Hey Michael, send me a copy in non PDF form. You can email me that copy. It will be my working copy.

You send it on one disc and also via email.

On Apr 9, 2013 11:19 AM, "Doerner, Michael" <MDoerner@trcsolutions.com> wrote:

James;

We are planning on sending the application on Wednesday but have a couple of questions about what you want. You told Brent you wanted an electronic copy of the public application in pdf format and one in word format. No problem with the pdf format copy.

- My question is with the word format copy. The electronic application is in a mixture of visio, excel, word and pdf. Exactly what do you mean a copy in word format?
- I assume you want the electronic copies on a CD? A single CD with both or separate for each format?

Michael A. Doerner
Air Quality Specialist



MDoerner@trcsolutions.com

30 Patewood Dr., Greenville, SC 29615

T: 864.234.9481 | F: 864.281.0288 | C: 864.884.2683

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BP CR PSD Application Question

Doerner, Michael <MDoerner@trcsolutions.com>

Tue 4/9/2013 2:05 PM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>;

Cc: brent.pace@bp.com <brent.pace@bp.com>;

Importance: High

James;

As I understand your answer you want:

- Emailed copy of **PUBLIC** version of application in pdf format
- Emailed copy of **PUBLIC** version of all permit application files in their original format (word, excel, pdf)
- A disk with the **PUBLIC** version of the application in pdf format and original format

This is in addition to the requested hard copies of the application versions. Is this correct?

Michael A. Doerner
Air Quality Specialist



MDoerner@trcsolutions.com
30 Patewood Dr., Greenville, SC 29615
T: 864.234.9481 | F: 864.281.0288 | C: 864.884.2683

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Re: BP CR PSD Application

Robinson, James C.

Wed 4/10/2013 5:41 PM

PSD

To: Doerner, Michael <MDoerner@trcsolutions.com>;

Cc: brent.pace@bp.com <brent.pace@bp.com>; Bailey, William <WBailey@trcsolutions.com>;

Ok, thanks Michael.

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

On Wed, Apr 10, 2013 at 5:21 PM, Doerner, Michael <MDoerner@trcsolutions.com> wrote:

The BP CR PSD application was put in the fedex overnight mail and should arrive tomorrow.

Michael A. Doerner
Air Quality Specialist



MDoerner@trcsolutions.com

30 Patewood Dr., Greenville, SC 29615

T: 864.234.9481 | F: 864.281.0288 | C: 864.884.2683

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Re: BP CR PSD Application Electronic Files

Robinson, James C.

Thu 4/11/2013 4:29 PM

PSD

To: Doerner, Michael <MDoerner@trcsolutions.com>;

Cc: brent.pace@bp.com <brent.pace@bp.com>;

Just a follow up on phone call. Got the email and opened one of the files. If I have any trouble with any of the files I'll let you know. Thanks!

On Wed, Apr 10, 2013 at 5:38 PM, Doerner, Michael <MDoerner@trcsolutions.com> wrote:

James;

Attached are the electronic application files you requested. The files are included on a CD that will be in the application package mailed to you.

Please let me know if you receive the emailed files.

Michael A. Doerner
Air Quality Specialist



MDoerner@trcsolutions.com

30 Patewood Dr., Greenville, SC 29615

T: 864.234.9481 | F: 864.281.0288 | C: 864.884.2683

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Re: PSD Application - Modeling and Federal Tax ID Question

brent.pace@bp.com

Fri 4/12/2013 4:00 PM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>;

Cc: Doerner, Michael <MDoerner@trcsolutions.com>; Glass, John <glassjp@dhec.sc.gov>; Barringer, Veronica <barrinv@dhec.sc.gov>; Soraya Purvis <purvissa@yahoo.com>;

Below is the federal tax ID number.

BP Amoco Chemical Company

Federal Tax ID No. [36-2347240](#)

Brent Pace

On Apr 12, 2013, at 11:32 AM, "Robinson, James C." <robinsjc@dhec.sc.gov> wrote:

Hey Brent, there are two items we need some clarification on...

1. For the Low Pressure Absorber (LPA), the emissions in the application show a 4.1 lb/hr rate, however Table 5-3 "Project Emission Sources with Parameters show an emission rate of 4.0 lb/hr; and per John Glass. the modeling files have an emission rate of 3.0 lb/hr.
2. The number listed in the application as the Federal Tax Identification No. (SCD084703909) is listed as an EPA Number.

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

RE: PSD Application - Modeling and Federal Tax ID Question

Doerner, Michael <MDoerner@trcsolutions.com>

Fri 4/12/2013 3:28 PM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>; brent.pace@bp.com <brent.pace@bp.com>;

Cc: Glass, John <glassjp@dhec.sc.gov>; Barringer, Veronica <barrinv@dhec.sc.gov>; Soraya Purvis <purvissa@yahoo.com>;
Fox, David <DFox@trcsolutions.com>;

Will have answer to both questions on Monday.

The emission rate for BT-603 should be 4.1 lb/hr and will send revised modeling files on that basis. The number in Table 5.3 was a round-off difference.

Michael A. Doerner
Air Quality Specialist



MDoerner@trcsolutions.com
30 Patewood Dr., Greenville, SC 29615
T: 864.234.9481 | F: 864.281.0288 | C: 864.884.2683

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From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]
Sent: Friday, April 12, 2013 2:02 PM
To: Pace, Brent A; Doerner, Michael
Cc: Glass, John P.; Veronica Barringer; Soraya Purvis
Subject: PSD Application - Modeling and Federal Tax ID Question

Hey Brent, there are two items we need some clarification on...

1. For the Low Pressure Absorber (LPA), the emissions in the application show a 4.1 lb/hr rate, however Table 5-3 "Project Emission Sources with Parameters show an emission rate of 4.0 lb/hr; and per John Glass. the modeling files have an emission rate of 3.0 lb/hr.
2. The number listed in the application as the Federal Tax Identification No. (SCD084703909) is listed as an EPA Number.

James C. Robinson, P.E.

Re: BP CR PSD - Revised modeling

Robinson, James C.

Mon 4/15/2013 4:43 PM

PSD

To: Doerner, Michael <MDoerner@trcsolutions.com>;

Cc: brent.pace@bp.com <brent.pace@bp.com>;

Emailing the pdf and modeling file replacements is fine. Thanks!

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

On Mon, Apr 15, 2013 at 4:13 PM, Doerner, Michael <MDoerner@trcsolutions.com> wrote:

James;

We have corrected the modeling emission rates to exactly match the inventory.

I was planning to email a pdf with the two replacement pages for section 5 for the confidential versions and another pdf for the non-confidential version.

We have revised the modeling files. Do you want us to send you replacement CDs to put in the application books or just email you the replacement file.

Michael A. Doerner
Air Quality Specialist



MDoerner@trcsolutions.com

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BP CR PSD Application Modeling revision

Doerner, Michael <MDoerner@trcsolutions.com>

Mon 4/15/2013 5:38 PM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>;

Cc: brent.pace@bp.com <brent.pace@bp.com>; Bailey, William <WBailey@trcsolutions.com>;

📎 4 attachments

BP CR PSD Revised Confidential Pages Only.pdf; BP CR PSD Revised Non-confidential Application.pdf; BP CR PSD Revised Non-confidential Pages Only.pdf; BP_Cooperco2013project Revised.amz;

James attached are the revisions for the changes to the modeling. Included are:

- Revised pages for Confidential Version
- Revised pages for Non-Confidential Version
- Complete revised Non-Confidential version
- Revised Air Modeling files

Michael A. Doerner
Air Quality Specialist



MDoerner@trcsolutions.com
30 Patewood Dr., Greenville, SC 29615
T: 864.234.9481 | F: 864.281.0288 | C: 864.884.2683

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RE: Acceptance of BP Amoco Cooper River Plant (0420-0029) Expedited PSD Application

brent.pace@bp.com

Mon 4/22/2013 9:13 AM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>; Doerner, Michael <MDoerner@trcsolutions.com>;

Cc: Reece, Myra <reecemc@dhec.sc.gov>; Basil, Elizabeth <basilej@dhec.sc.gov>; Barringer, Veronica <barrinv@dhec.sc.gov>; Whiteside, Pamela <whitespw@dhec.sc.gov>; Fitts, Mark E <Mark.Fitts@bp.com>; Lesslie, Judith M <Judith.Lesslie@bp.com>;

BP Amoco Chemical Company Cooper River Plant agrees to the conditions in this email and is sending a check in the amount of \$20,000 to SCDHEC today.

Thank you for the opportunity to be in the expedited program and we look forward to working closely with you over the next several months to complete the PSD Permit.

Brent Pace

From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]

Sent: Thursday, April 18, 2013 1:04 PM

To: Pace, Brent A; Doerner, Michael

Cc: Myra Reece; Elizabeth Basil; Veronica Barringer; Pamela Whiteside

Subject: Acceptance of BP Amoco Cooper River Plant (0420-0029) Expedited PSD Application

The Bureau of Air Quality has finished the completeness review of the expedited PSD application received on April 11, 2013. We need your assistance in meeting the time frame goals. We ask that you commit to assisting us with public participation activities, such as participating in answering questions from the public about the proposed project during any public meeting and/or public hearings that may be requested and held and helping us respond to any comments that may be received during the public comment period. We also ask that you commit to providing timely answers to any additional information that may be requested during the review. If you still wish to enter the expedited program and agree to the above conditions please respond to this email and submit payment in the amount of \$20,000/25,000 within 5 days.

James C. Robinson, P.E.

Environmental Engineer

BAQ/Engineering Services Division

2600 Bull St., Columbia, SC 29201

Ph: 803-898-0660 Fax: 803-898-4079

RE: Request for more info on BP Amoco PSD application

Doerner, Michael <MDoerner@trcsolutions.com>

Wed 4/24/2013 10:20 AM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>; brent.pace@bp.com <brent.pace@bp.com>;

James;

I have received the emailed letter and will begin to work with Brent to answer your requests.

Michael A. Doerner
Air Quality Specialist



MDoerner@trcsolutions.com
30 Patewood Dr., Greenville, SC 29615
T: 864.234.9481 | F: 864.281.0288 | C: 864.884.2683

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From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]

Sent: Wednesday, April 24, 2013 10:05 AM

To: Doerner, Michael; Pace, Brent A

Subject: Request for more info on BP Amoco PSD application

Gentleman, we sent out a letter on Monday (4/22) requesting additional information and some clarification on the PSD application. I apologize for not EC'ing you on the letter Mike, so I've attached the letter. Please contact me after you all have gotten a chance to review the letter. Thanks!

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

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BP Amoco Cooper River 0420-0029

Price, Tracy

Fri 4/26/2013 2:01 PM

PSD

To: brent.pace@bp.com <brent.pace@bp.com>; Doerner@trcsolutions.com <Doerner@trcsolutions.com>;

Cc: Robinson, James C. <robinsjc@dhec.sc.gov>; Glass, John <glassjp@dhec.sc.gov>;

Mr. Pace / Mr Doerner;

I have included several comments in regards to the modeling submitted for the BP Amoco Cooper River Plant PSD permit application. Please provide responses to the following.

- 1) Please verify that all pollutants are covered under a MACT standard by outlining sources and pollutants and the corresponding MACT(s). (i.e. identify which sources are controlled by which MACTs and if the MACTs control all TAPs emitted). The report states that the OX and PTA Units are subject to the HON, but does the HON control all of the toxics that are emitted?
- 2) No SC State modeling was included. The report stated that it was not required. However, there are sources listed in the emissions tables that either have not been previously modeled, or are being modified. Therefore, the facility must update the SC State modeling for Standards 2 and 7 to include all sources and all pollutants that are not exempt. Exempt sources and their emission rates (or categorical justification) should be listed.
- 3) Stack IDs and Emission points on the Process forms and other forms do not seem to be consistent. For example, HPVGTS1 and O-2/10/15 – HPVGTS1 is listed as a control device and O-2/10/15 is listed as the emission point. But HPVGTS1 is used as the emission point/stack ID in the model, and neither is shown on the control device form. Please correct this issue for this stack and any other stacks.
- 4) No modeling information form was included with the submittal. This form should be completed for all stacks to be modeled for state and PSD modeling.
- 5) At least one of the sources listed in the modeling is not on any of the forms (BT-702). Please explain. If the source has been removed, please specify. If the emissions have been moved to another location and the stack is no longer used, please explain. Please note: You can only take credit for negative emissions in increment modeling.
- 6) Are all of the facility emissions listed on the Emissions Form? If not, the emissions must be shown somewhere for the Standard 2 and 7 modeling. The list provided on this form is very different than our historical information and the differences should be explained and corrected as necessary. Some differences may be in stack identification numbers. It would be helpful to provide a cross-reference list with historical stack IDs and new IDs, if they have changed.
- 7) Are the emissions on the submitted Emissions Form, project only increases or facility totals (PTE). Project only emissions are appropriate for the initial PSD SIL analysis, but facility PTE should be used for state modeling.

Please do not hesitate to contact me with questions. I will continue to provide comments if/as they are developed.

–

Tracy Price, PE

SCDHEC/BAQ/Modeling

2600 Bull Street

Columbia, SC 29201

803-896-7613 (office Wed)

803-685-5520 (telecommute Mon, Tu, Thur, Fri)

priceto@dhec.sc.gov



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

Coastal Zone Consistency Certification

To: Katie Brown, Bureau of Air Quality
From: John Cox, OCRM Coastal Zone Consistency Section
Cc: Curtis Joyner, OCRM Coastal Zone Consistency Section
Re: BP Cooper River Plant Modernization/Debottleneck Project
Site location: Berkeley County, SC
Date: April 26, 2013
CZC #: 13-0287
PN#: N/A

Department CZC staff has reviewed the above referenced Coastal Zone Consistency request for an air quality construction permit for the BP Cooper River Plant and certifies the above referenced project meets the minimum standards for General Coastal Zone Consistency for Expedited Air Quality Construction Permits.

This certification serves as the DHEC OCRM Coastal Zone Consistency approval for this permit and does not alleviate the applicant's responsibility in obtaining other required local, state or federal approvals.

RE: PSD Application - Modeling and Federal Tax ID Question

Doerner, Michael <MDoerner@trcsolutions.com>

Fri 4/12/2013 3:28 PM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>; brent.pace@bp.com <brent.pace@bp.com>;

Cc: Glass, John <glassjp@dhec.sc.gov>; Barringer, Veronica <barrinv@dhec.sc.gov>; Soraya Purvis <purvissa@yahoo.com>;
Fox, David <DFox@trcsolutions.com>;

Will have answer to both questions on Monday.

The emission rate for BT-603 should be 4.1 lb/hr and will send revised modeling files on that basis. The number in Table 5.3 was a round-off difference.

Michael A. Doerner
Air Quality Specialist



MDoerner@trcsolutions.com
30 Patewood Dr., Greenville, SC 29615
T: 864.234.9481 | F: 864.281.0288 | C: 864.884.2683

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From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]
Sent: Friday, April 12, 2013 2:02 PM
To: Pace, Brent A; Doerner, Michael
Cc: Glass, John P.; Veronica Barringer; Soraya Purvis
Subject: PSD Application - Modeling and Federal Tax ID Question

Hey Brent, there are two items we need some clarification on...

1. For the Low Pressure Absorber (LPA), the emissions in the application show a 4.1 lb/hr rate, however Table 5-3 "Project Emission Sources with Parameters show an emission rate of 4.0 lb/hr; and per John Glass. the modeling files have an emission rate of 3.0 lb/hr.
2. The number listed in the application as the Federal Tax Identification No. (SCD084703909) is listed as an EPA Number.

James C. Robinson, P.E.

Re: Meeting to answer questions?

Robinson, James C.

Wed 5/1/2013 4:22 PM

PSD

To: brent.pace@bp.com <brent.pace@bp.com>;

Cc: Price, Tracy <priceto@dhec.sc.gov>; MDoerner@trcsolutions.com <MDoerner@trcsolutions.com>;

I will try again.

OK thanks.

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

On Wed, May 1, 2013 at 2:36 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

James

I have not received the invite.

As of right now, I think we will have handouts for anything we need to have everyone look at. Most of it I think will be talking through the questions.

From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]

Sent: Wednesday, May 01, 2013 2:27 PM

To: Pace, Brent A

Cc: Price, Tracy; MDoerner@trcsolutions.com

Subject: Re: Meeting to answer questions?

You all should have received the meeting notification. If not, please let me know.

Brent/Michael is there anything you need for the meeting tomorrow, i.e. laptop, projector?

James C. Robinson, P.E.

Environmental Engineer

BAQ/Engineering Services Division

2600 Bull St., Columbia, SC 29201

Ph: 803-898-0660 Fax: 803-898-4079

On Wed, May 1, 2013 at 12:07 PM, Robinson, James C. <robinsjc@dhec.sc.gov> wrote:

Sounds good. I will send out a calendar invite in the next couple of hours.

James C. Robinson, P.E.

Environmental Engineer

BAQ/Engineering Services Division

2600 Bull St., Columbia, SC 29201

Ph: 803-898-0660 Fax: 803-898-4079

On Wed, May 1, 2013 at 11:55 AM, Pace, Brent A <Brent.Pace@bp.com> wrote:

Great. Sounds like we are on for 1 PM tomorrow at SCDHEC in Columbia. We can hit the modeling questions first and then the hit the application questions. Appreciate everyone's flexibility on this.

Brent

From: Price, Tracy [mailto:priceto@dhec.sc.gov]

Sent: Wednesday, May 01, 2013 11:31 AM

To: Robinson, James C.

Cc: Pace, Brent A; MDoerner@trcsolutions.com

Subject: Re: Meeting to answer questions?

I can do Thursday at 1 pm as long as we are (or at least I am) done by 2pm.

Tracy P.

On Tue, Apr 30, 2013 at 3:42 PM, Robinson, James C. <robinsjc@dhec.sc.gov> wrote:

1 pm is ok for me, but I'm not sure about Tracy. Will have to wait until he responds.

James C. Robinson, P.E.

Environmental Engineer

BAQ/Engineering Services Division

2600 Bull St., Columbia, SC 29201

Ph: 803-898-0660 Fax: 803-898-4079

On Tue, Apr 30, 2013 at 3:34 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

Mike and I are good for Thursday afternoon. Does 1 pm work for everyone?

Brent Pace

On Apr 30, 2013, at 2:38 PM, "Robinson, James C." <robinsjc@dhec.sc.gov> wrote:

Hey all, I am available Thursday afternoon and Friday from about 11:30 until 3. I can adjust my lunch on Friday if needed.

James C. Robinson, P.E.

Environmental Engineer

BAQ/Engineering Services Division

2600 Bull St., Columbia, SC 29201

Ph: 803-898-0660 Fax: 803-898-4079

On Tue, Apr 30, 2013 at 1:02 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

Mike is not available tomorrow but we are both available on Thursday and Friday. Either of those days work?

From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]
Sent: Tuesday, April 30, 2013 12:58 PM
To: Pace, Brent A
Cc: priceto@dhec.sc.gov; MDoerner@trcsolutions.com
Subject: Re: Meeting to answer questions?

Hey Brent, we are OK with meeting. Are you available for a meeting tomorrow about 10:30?

—

James C. Robinson, P.E.

Environmental Engineer

BAQ/Engineering Services Division

2600 Bull St., Columbia, SC 29201

Ph: 803-898-0660 Fax: 803-898-4079

On Mon, Apr 29, 2013 at 1:35 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

James and Tracy

Thank for the questions. I was wondering if it would make sense to get together and discuss the list of questions that you have sent. I know there are more to come, but I thought that maybe for the first couple rounds of questions it would make sense for us to come to Columbia to sit down face to face and make sure we are all on the same page.

Thoughts on this? We could also do it via phone and email, but I have the feeling some items might be lost in translation in email and possibly even phone.

Let me know.

Brent

Re: Meeting to answer questions?

Robinson, James C.

Mon 5/13/2013 9:16 AM

Sent Items

To: Price, Tracy <priceto@dhec.sc.gov>;

Cc: brent.pace@bp.com <brent.pace@bp.com>; MDoerner@trcsolutions.com <MDoerner@trcsolutions.com>;

Hey Tracy, you're mostly right from my understanding. Permitting has been accepting confidential info via email, and we just make sure we delete emails and any attachments that are confidential. I know modeling does not take confidential information. Brent and Mike, please let me know if you have any questions about confidentiality. Thanks!

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

On Thu, May 9, 2013 at 9:21 AM, Price, Tracy <priceto@dhec.sc.gov> wrote:

Thanks for the information.

Please send the stack ID table and the Attachment A table in a microsoft word document. I cannot copy a PDF and prefer not to have to retype those tables. If the report has been revised, please send a non-confidential version to me.

There are a couple of things about providing info to us via email. James can correct me if I am wrong here, but this is my current understanding.

- 1) Please do not send confidential information to modeling. We really have no way to control confidential documents.
- 2) Emission rates and modeling related information (stacks, modeled concentrations, etc.) cannot be considered confidential since they are required to demonstrate compliance with our standards. Our modeling files and computers are subject to FOI and should not contain confidential material.
- 3) As far as I know, anything on email (since we now use gmail) is considered subject to FOI, which is not confidentially controlled. I would suggest only sending confidential materials via hard copy through the mail or FedEx, or hand delivered.

Tracy P.

On Wed, May 8, 2013 at 3:26 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

Tracy

Please see the attached letters which include all of the responses and tables you requested. Please let me know if you need anything further.

Brent

From: Price, Tracy [mailto:priceto@dhec.sc.gov]
Sent: Wednesday, May 08, 2013 1:33 PM
To: Pace, Brent A
Cc: Robinson, James C.

Subject: Re: Meeting to answer questions?

Can you provide me with electronic copies of the documents you presented in the meeting last week (the stack reference list, comment responses, and the Attachment A table with the legend notes.).

Thanks

Tracy

On Mon, Apr 29, 2013 at 1:35 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

James and Tracy

Thank for the questions. I was wondering if it would make sense to get together and discuss the list of questions that you have sent. I know there are more to come, but I thought that maybe for the first couple rounds of questions it would make sense for us to come to Columbia to sit down face to face and make sure we are all on the same page.

Thoughts on this? We could also do it via phone and email, but I have the feeling some items might be lost in translation in email and possibly even phone.

Let me know.

Brent

--

Tracy Price, PE
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Columbia, SC 29201
803-896-7613 (office Wed)
803-685-5520 (telecommute Mon, Tu, Thur, Fri)
priceto@dhec.sc.gov

RE: Meeting to answer questions?

Doerner, Michael <MDoerner@trcsolutions.com>

Fri 5/3/2013 1:23 PM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>; brent.pace@bp.com <brent.pace@bp.com>;

Cc: Price, Tracy <priceto@dhec.sc.gov>;

James;

The following is from the instructions for the form:

B. Control Device Description

Please provide the information requested in this table for each control device that is being **added, removed, or modified**.

Michael A. Doerner
Air Quality Specialist



MDoerner@trcsolutions.com

30 Patewood Dr., Greenville, SC 29615

T: 864.234.9481 | F: 864.281.0288 | C: 864.884.2683

[LinkedIn](#) | [Twitter](#) | [Blog](#) | [Flickr](#) | www.trcsolutions.com

From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]

Sent: Friday, May 03, 2013 1:08 PM

To: Pace, Brent A

Cc: priceto@dhec.sc.gov; Doerner, Michael

Subject: Re: Meeting to answer questions?

Brent and Michael, as a follow up to a couple of questions yesterday,

1. I do not see in the instructions for the Control Device form where it states do not put control devices or equipment that hasn't changed; and
2. the question I had about emissions forms, I am OK with the way you filled them out.

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

On Mon, Apr 29, 2013 at 1:35 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:
James and Tracy

Thank for the questions. I was wondering if it would make sense to get together and discuss the list of questions that you have sent. I know there are more to come, but I thought that maybe for the first couple rounds of questions it would make sense for us to come to Columbia to sit down face to face and make sure we are all on the same page.

Thoughts on this? We could also do it via phone and email, but I have the feeling some items might be lost in translation in email and possibly even phone.

Let me know.

Brent

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For more information please visit <http://www.symanteccloud.com>

Re: Meeting to answer questions?

Price, Tracy

Thu 5/9/2013 9:21 AM

PSD

To: brent.pace@bp.com <brent.pace@bp.com>;

Cc: Robinson, James C. <robinsjc@dhec.sc.gov>; MDoerner@trcsolutions.com <MDoerner@trcsolutions.com>;

Thanks for the information.

Please send the stack ID table and the Attachment A table in a microsoft word document. I cannot copy a PDF and prefer not to have to retype those tables. If the report has been revised, please send a non-confidential version to me.

There are a couple of things about providing info to us via email. James can correct me if I am wrong here, but this is my current understanding.

- 1) Please do not send confidential information to modeling. We really have no way to control confidential documents.
- 2) Emission rates and modeling related information (stacks, modeled concentrations, etc.) cannot be considered confidential since they are required to demonstrate compliance with our standards. Our modeling files and computers are subject to FOI and should not contain confidential material.
- 3) As far as I know, anything on email (since we now use gmail) is considered subject to FOI, which is not confidentially controlled. I would suggest only sending confidential materials via hard copy through the mail or FedEx, or hand delivered.

Tracy P.

On Wed, May 8, 2013 at 3:26 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

Tracy

Please see the attached letters which include all of the responses and tables you requested. Please let me know if you need anything further.

Brent

From: Price, Tracy [mailto:priceto@dhec.sc.gov]

Sent: Wednesday, May 08, 2013 1:33 PM

To: Pace, Brent A

Cc: Robinson, James C.

Subject: Re: Meeting to answer questions?

Can you provide me with electronic copies of the documents you presented in the meeting last week (the stack reference list, comment responses, and the Attachment A table with the legend notes.).

Thanks

Tracy

On Mon, Apr 29, 2013 at 1:35 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

James and Tracy

Thank for the questions. I was wondering if it would make sense to get together and discuss the list of questions that you have sent. I know there are more to come, but I thought that maybe for the first couple rounds of questions it would make sense for us to come to Columbia to sit down face to face and make sure we are all on the same page.

Thoughts on this? We could also do it via phone and email, but I have the feeling some items might be lost in translation in email and possibly even phone.

Let me know.

Brent

--

Tracy Price, PE
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803-685-5520 (telecommute Mon, Tu, Thur, Fri)
priceto@dhec.sc.gov

--

Tracy Price, PE
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2600 Bull Street
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803-896-7613 (office Wed)

Appendix B Calculations

Doerner, Michael <MDoerner@trcsolutions.com>

Tue 5/7/2013 2:33 PM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>;

Cc: brent.pace@bp.com <brent.pace@bp.com>;

📎 1 attachment

Appendix B Tables-NC Disk Files.xlsx;

James;

Attached is the revised Appendix B calculations tables in excel format.

Michael A. Doerner
Air Quality Specialist



MDoerner@trcsolutions.com
30 Patewood Dr., Greenville, SC 29615
T: 864.234.9481 | F: 864.281.0288 | C: 864.884.2683

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RE: Modeling Attachment A

brent.pace@bp.com

Wed 5/22/2013 8:45 AM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>; Price, Tracy <priceto@dhec.sc.gov>;

Cc: Doerner, Michael <MDoerner@trcsolutions.com>; Glass, John <glassjp@dhec.sc.gov>;

Sounds like a winner

From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]

Sent: Tuesday, May 21, 2013 8:58 PM

To: Price, Tracy

Cc: Doerner, Michael; Pace, Brent A; Glass, John P.

Subject: Re: Modeling Attachment A

No objections on my end.

James C. Robinson, P.E.

Environmental Engineer

BAQ/Engineering Services Division

2600 Bull St., Columbia, SC 29201

Ph: 803-898-0660 Fax: 803-898-4079

On Tue, May 21, 2013 at 5:23 PM, Price, Tracy <priceto@dhec.sc.gov> wrote:

Since all of the sources and HAPs at the facility are covered under the HON, it is my opinion that we should just take out all of the standard 8 modeling, unless there are any objections.

On Tue, May 21, 2013 at 1:46 PM, Doerner, Michael <MDoerner@trcsolutions.com> wrote:

Tracy;

Attached is a revised comparison table for the Standard 8 modeling using the 2007 Aermod data. I have included the modeling input info from the 2007 application in the attached word file.

All of the toxics shown in the Standard 8 table are HAPS that are subject to the HON regulation. All of the sources are in units that are covered by the HON.

Let me know if any other questions.

Michael A. Doerner

Air Quality Specialist



MDoerner@trcsolutions.com

30 Patewood Dr., Greenville, SC 29615

T: 864.234.9481 | F: 864.281.0288 | C: 864.884.2683

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From: Price, Tracy [mailto:priceto@dhec.sc.gov]

Sent: Wednesday, May 15, 2013 1:52 PM

To: Doerner, Michael; Pace, Brent A

Cc: Robinson, James C.

Subject: Modeling Attachment A

I noticed on the attachment A that you sent, the air toxics are from a 2006 modeling file. The 2007 modeling, which was done using AERMOD instead of ISCST3 and which is the most recent I have, does not include hydrogen sulfide or xylene. I have no idea why the most recent modeling is not in the 2011 permit. The source list is also quite different. Can you explain what is going on with this. I don't know if all of these toxics and sources fall under the MACT sources that are exempt.

--

Tracy Price, PE
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--

Tracy Price, PE
SCDHEC/BAQ/Modeling
2600 Bull Street

Standard 8 Modeling

STANDARD NO. 8 - MODELED AIR TOXIC EMISSION RATES (LBS/HR): Table 1				
STACK ID	Acetaldehyde	Benzene	Formaldehyde	Methanol
	75-07-0	71-43-2	50-00-0	67-756-1
#1ATMOS	---	1.3 (1.47)	--- (0.01)	0.8 (0.58)
#1LPVGT	.8413	1.980	4.400	3.700
#1OFFGAS	0.198 (0.0)	11.2 (1.21)	0.325 (0.0)	4.42 (0.87)
#2 PVS*	0.00794 (0.24)	0.397 (0.25)	--- (0.46)	0.198 (0.97)
#2CRYSVE	0.198 (0.21)	0.0397 (0.01)	0.0794 (0.10)	0.302 (0.41)
CVSCRUBR	0.198 (0.12)	0.00794 (0.01)	--- (0.10)	0.397 (0.23)
WASTEWATER FUG	---	.0476	.0238	31.96
FACILITY TOTAL	1.443 (0.57)	14.972 (4.37)	4.8282 (0.76)	41.777 (3.63)

STANDARD NO. 8 - MODELED AIR TOXIC EMISSION RATES (LBS/HR): Table 2				
STACK ID	Methyl Bromide	Toluene	PX	N/A
	74-83-9	108-88-3	106-42-3	
#1ATMOS	1.6 (1.75)	3.9 (0.18)	6.5 (0.88)	
#1LPVGT	5.181	0.6801	2.81	
#1OFFGAS	30.2 (2.03)	4.03 (0.04)	2.79 (0.04)	
#2 PVS*	0.897 (0.22)	0.103 (0.18)	0.198 (0.75)	
#2CRYSVE	---	0.302 (0.14)	0.802 (0.51)	
CVSCRUBR	---	0.103 (0.08)	0.397 (0.28)	
WASTEWATER FUG	---	---		
FACILITY TOTAL	36.981 (5.68)	9.118 (0.79)	16.3 (5.4)	

*This was incorrectly labeled as #2 HPVGTS in old Appendix A Standard 8 table.

The following tables are from the application in 2007 which contained the modeling input emission rates shown. They match the rates in the tables above from your memo. The sources highlighted in yellow are all combustion sources that burn only virgin fuel and are exempt from Standard 8 modeling. The PX (p-xylene) emission rate is shown in the table. All of the Toxics shown in the table above are HAPs that are subject to the HON regulation.

Table 2-1. Stack Parameters and Pollutant Emission Rates for the Cooper River Plant National Ambient Air Quality Standards and Toxics Modeling Analysis

Source Description & ID	East (Meters)	North (Meters)	CO Emission Rate (g/sec)	Acetaldehyde Emission Rate (g/sec)	Benzene Emission Rate (g/sec)	Formaldehyde Emission Rate (g/sec)	Methanol Emission Rate (g/sec)	Methyl Bromide Emission (g/sec)	PX Emission Rate (g/sec)	Toluene Emission Rate (g/sec)	Stack Height (meters)	Stack Temp (°k)	Exit Velocity (m/sec)	Diameter (Meters)
#1 LPVGT	604647	3648902	10.857	.1060	.2495	.5544	.4662	.6529	.3541	.0857	10.7	304.8	21.3	0.30
IT Em Gen	604847	3648400	.0693	NA	NA	NA	NA	NA	NA	NA	2.75	914.8	66.25	0.20
Boiler #3	604836	3648824	5.12	NA	NA	NA	NA	NA	NA	NA	30.5	425	18.6	1.905
Boiler #4	604861	3648824	5.12	NA	NA	NA	NA	NA	NA	NA	30.5	425	18.6	1.905
UT Comp #1	604922	3648902	.505	NA	NA	NA	NA	NA	NA	NA	3.66	683.2	.01	24.168
UT Comp #2	604924	3648855	.164	NA	NA	NA	NA	NA	NA	NA	3.05	683.2	.01	24.168
UT Gen #1	604922	3648894	.311	NA	NA	NA	NA	NA	NA	NA	2.74	803.2	59.13	0.15
#1 Ox Gen 2	604634	3648914	.282	NA	NA	NA	NA	NA	NA	NA	1.82	803.2	59.13	0.15
#2 Ox Gen 3	604587	3648735	.744	NA	NA	NA	NA	NA	NA	NA	1.82	803.2	59.13	0.15
CV Scrubber	604524	3648946	NA	.025	.001	.000	.050	.000	.050	.013	28.65	373.15	5.18	1.07
#1 Offgas	604655	3648934	183.034	.025	1.417	.041	.557	3.80	.352	.508	30.48	349.82	79.82	0.91

Table 2-1 (Continued) Stack Parameters and Pollutant Emission Rates for the Cooper River Plant National Ambient Air Quality Standards and Toxics Modeling Analysis

Source Description & ID	East (Meters)	North (Meters)	CO Emission Rate (g/sec)	Acetaldehyde Emission Rate (g/sec)	Benzene Emission Rate (g/sec)	Formaldehyde Emission Rate (g/sec)	Methanol Emission Rate (g/sec)	Methyl Bromide Emission (g/sec)	PX Emission Rate (g/sec)	Toluene Emission Rate (g/sec)	Stack Height (meters)	Stack Temp (°k)	Exit Velocity (m/sec)	Diameter (Meters)
#1 Atmos	604617	3648949	3.654	.000	.1638	.000	.1008	.202	.819	.491	21.5	322.04	3.42	0.76
#2 HP Vent GT	604687	3648681	.156	NA	NA	NA	NA	NA	NA	NA	41.1	638.7	21.34	0.88
#2Crys Vent	604469	3648667	NA	.025	.005	.010	.038	.000	.101	.038	22.86	373.2	5.03	1.07
#2 PVS	604656	3648715	1.955	.001	.05	.000	.025	.113	.025	.013	41.45	333.2	29.87	1.3
#2 Atmos	604535	3648720	.631	.000	.009	.000	.008	.008	.019	.000	24.38	308.2	0.98	1.07
PX Storage Tank 1	603860	3648311	NA	NA	NA	NA	NA	NA	.017	NA	13.26	299.8	0.00	0.30
PX Storage Tank 2	603723	3648311	NA	NA	NA	NA	NA	NA	.017	NA	13.26	299.8	0.00	0.30
PX Storage Tank 3	603573	3648311	NA	NA	NA	NA	NA	NA	.017	NA	13.26	299.8	0.00	0.30
Anaerobic CO2 Strip	603807	3648754	NA	NA	NA	NA	NA	NA	.039	NA	22.86	310.9	12.8	.36
	603810	3648767	NA	NA	NA	NA	.001	NA	.043	NA	16.76	310.9	0.76	4.27
#1 Fug (Area)	604542	3648855	NA	NA	NA	NA	NA	NA	.023	NA	NA	NA	NA	NA
#2 Fug (Area)	604508	3648618	NA	NA	NA	NA	NA	NA	.072	NA	NA	NA	NA	NA
OSBLFug (Area)	603460	3648229	NA	NA	NA	NA	NA	NA	.077	NA	NA	NA	NA	NA
Wastewater Fug (Area)	603621	3648518	NA	.000	.006	.003	4.027	NA	.02	.000	NA	NA	NA	NA
Lcomp 1	603677	3648687	.0950	NA	NA	NA	NA	NA	NA	NA	3.05	685.9	104.5	.15
Lcomp 2	603677	3648690	.0950	NA	NA	NA	NA	NA	NA	NA	3.05	685.9	104.5	.15
Raw H2O	603171	3649138	0.240	NA	NA	NA	NA	NA	NA	NA	2.00	685.9	104.5	.15

Re: Additional Information Requested for BP PSD Application

Robinson, James C.

Thu 8/1/2013 2:29 PM

PSD

To: brent.pace@bp.com <brent.pace@bp.com>;

Cc: Doerner, Michael <MDoerner@trcsolutions.com>;

As a follow up to BACT determinations (Preliminary and Final Determinations) and application discussions, here are a few good and recent examples for South Carolina that you could FOI. Showa Denko (Dorchester Co.), AGY, LLC (Aiken Co.) [especially for cost analysis], Simpson Lumber Company, LLC (Georgetown Co.), and New South Companies (Horry County).

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

On Mon, Jul 22, 2013 at 3:21 PM, Robinson, James C. <robinsjc@dhec.sc.gov> wrote:

Brent, one thing that I don't think I made clear in previous conversations. Make sure that for each BACT limit, there is specific and adequate out monitoring, recordkeeping, and reporting spelled out in the application. Let me know if you have any questions. Thanks!

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

On Thu, Jul 18, 2013 at 4:26 PM, Robinson, James C. <robinsjc@dhec.sc.gov> wrote:

OK, thanks for the update Brent!

Some additional information/clarification on previous discussions in regards to the economic impact analysis. On page B.31 of the EPA New Source Review Workshop Manual, Section IV.D.2 COST/ECONOMIC IMPACTS ANALYSIS, the following states

"...applicants generally should not propose elimination of control alternatives on the basis of economic parameters that provide an indication of the affordability of a control alternative relative to the source. ...where a control technology has been successfully applied to similar sources in a source category, an applicant should concentrate on documenting significant cost differences, if **any**, between the application of the control technology on those other sources and the particular source under review. *...To justify elimination of an alternative on these grounds, the applicant should demonstrate to the satisfaction of the permitting agency that costs of pollutant removal for the control alternative are disproportionately high when compared to the cost of control for that particular pollutant and source in recent BACT determinations.*" [italics added for emphasis]

Since there aren't any economic impact analyses in the RBLC, you may have to FOI the permits from the specific states or local authorities to determine what the cost effectiveness was for those BACT Determinations.

James C. Robinson, P.E.

Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

On Thu, Jul 18, 2013 at 1:11 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

James

Due to potential scope changes, we need to postpone our submittal to you for at least two weeks (to August 2, 2013). As we have been doing, I will keep you up to date on the latest changes and expected submittal timing.

Brent

From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]
Sent: Wednesday, July 10, 2013 4:23 PM
To: Pace, Brent A

Cc: Doerner, Michael
Subject: Re: Additional Information Requested for BP PSD Application

OK Brent I understand and that is fine to push target to Friday July 19th. Thanks!!!

James C. Robinson, P.E.

Environmental Engineer

BAQ/Engineering Services Division

2600 Bull St., Columbia, SC 29201

Ph: 803-898-0660 Fax: 803-898-4079

On Wed, Jul 10, 2013 at 4:19 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

James,

We are not going to make this Friday for a couple of reasons, one being that I want to answer your question on where the emission factors are coming from in our revised application. Right now we will

target next Friday, July 19, 2013.

Brent

From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]

Sent: Tuesday, July 02, 2013 9:29 AM

To: Pace, Brent A

Cc: Doerner, Michael

Subject: Re: Additional Information Requested for BP PSD Application

Brent, I am fine with the extension. If you need even more time than that, please let me know. I know it's a lot.

James C. Robinson, P.E.

Environmental Engineer

BAQ/Engineering Services Division

2600 Bull St., Columbia, SC 29201

Ph: 803-898-0660 Fax: 803-898-4079

On Tue, Jul 2, 2013 at 9:18 AM, Pace, Brent A <Brent.Pace@bp.com> wrote:

James

We initially thought that this Friday would be reasonable time to answer all the questions below, but as discussed with you, we have decided that it is best to submit a revised permit application with all the changes incorporated into it (including changes we have made previously). This will put everything in one place for both SCDHEC, TRC and BP – and eventually for the public.

So, as we are revising the application and planning to resubmit the application, we are not going to meet the July 5 deadline. As long as it is OK with you, we plan to resubmit by the next Friday, July 12, 2013.

Please let me know you concur with this timing.

Brent

From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]

Sent: Tuesday, June 18, 2013 5:09 PM

To: Pace, Brent A; Doerner, Michael

Subject: Re: Additional Information Requested for BP PSD Application

I failed to mention a deadline to provide the requested information. Please have requested information submitted to the Bureau by C.O.B. Friday July 5. 2013.

James C. Robinson, P.E.

Environmental Engineer

BAQ/Engineering Services Division

2600 Bull St., Columbia, SC 29201

Ph: 803-898-0660 Fax: 803-898-4079

On Tue, Jun 18, 2013 at 11:22 AM, Robinson, James C. <robinsjc@dhec.sc.gov> wrote:

Dear Mr. Pace and Mr. Doerner:

In order to continue the review of BP's PSD Application, the following items need to be addressed:

PSD Netting Analysis and Significant Emissions Increases

1. Provide a detailed explanation of how current synthetic minor limits will be addressed, including but not limited to, which specific limits are being removed, why are they being removed, and what is the impact of the removal of the limits in the PSD netting analysis. Note that when removing a PSD Synthetic minor limit

on existing equipment, processes, Unit IDs, etc., a review of the entire project that initially avoided PSD needs to be done.

2. Provide a detailed explanation as to whether the 2011 debottleneck project (construction permit 0420-0029-CT) is or is not related to the current proposed PSD project., i.e. a review determining what equipment/unit IDs were included in the 2011 project verses what equipment/unit IDs are included in the proposed PSD project. If the 2011 debottleneck project is related to the current proposed PSD project, BP will need to include the emissions from the 2011 debottleneck project in step one of the PSD netting analysis of the proposed PSD project.

3. Provide a detailed explanation of why there will be a VOC emissions reduction in the wastewater treatment area. Note that this decrease and any other contemporaneous, creditable decreases and increases must be included in step 2 of the PSD netting analysis.

4. Provide a detailed explanation of what portion of the incremental boiler use will be designated for steam supply to the turbines. Include a breakdown of the emissions from incremental steam usage.

Other Items Needed for Preliminary Determination

1. Provide a more detailed description of the proposed changes for the project. For example under the proposed changes in the #1 OX unit, how will BP achieve additional air compressor capacity, additional reactor overhead recovery capacity, improved power recovery in off-gas expander, etc. Some proposed changes need to be defined, i.e. dense phase conveying, direct PX injection, azeotropic distillation, etc. In addition, the proposed changes in the general categories need to be spelled out in as much detail as possible, i.e. specifically what process equipment is being replaced.

2. Provide pre and post project non-confidential process flow diagrams, which include all major equipment, control devices and emission points. For confidential items, BP can use generic names or IDs and provide a cross reference sheet with the confidential names or IDs.

3. As Step 1 of the BACT Determination identifies all potential control

technologies, BP needs to include every control technology found in the BACT search, and go through the BACT analysis for each. For example, a flare and "IFR tanks" were listed as control methods for the VOC Emissions search; however, they were not listed in Step 1 or any other part of the BACT Determination.

4. Provide detailed control technology descriptions for each control technology considered in the technical feasibility sections of the BACT Analysis. BP should explain why each control technology is technically feasible or infeasible.

5. As there is no "Bright Line" cost effectiveness threshold for control options, additional information needs to be provided for the control options which have been excluded solely for being less than \$10,000. Cost effectiveness should be based on comparisons of similar facilities and/or processes. BP can also use energy analysis or environmental analysis to eliminate a control option as BACT.

Sincerely,

James C. Robinson, P.E.

Environmental Engineer

BAQ/Engineering Services Division

2600 Bull St., Columbia, SC 29201

Ph: 803-898-0660 Fax: 803-898-4079

Re: BP CR PSD Analysis

Robinson, James C.

Tue 6/18/2013 9:51 AM

PSD

To: brent.pace@bp.com <brent.pace@bp.com>;

Cc: MDoerner@trcsolutions.com <MDoerner@trcsolutions.com>;

Brent thanks. Please hold off on submitting the netting analysis until you see our request for additional information. This should be coming to you today, no later than tomorrow.

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

On Tue, Jun 18, 2013 at 9:30 AM, Pace, Brent A <Brent.Pace@bp.com> wrote:

James

Attached please find the revised PSD Emissions summary which includes both Step 1 and 2. Please review and let me know if there are any changes you would like to see before we resubmit this.

From: Doerner, Michael [mailto:MDoerner@trcsolutions.com]
Sent: Monday, June 17, 2013 3:59 PM
To: Pace, Brent A
Cc: Bailey, William; VandenMeiracker, Robert
Subject: BP CR PSD Analysis

Here is the corrected file to send to James.

Michael A. Doerner
Air Quality Specialist

MDoerner@trcsolutions.com

Table B-1
Project Dragonslayer PSD Emissions Analysis Summary

Post-Project PTE Emissions (tpy)

POLLUTANTS	CR #1 OX	CR #2 OX	CR #1 PTA	CR #2 PTA	COOLING TOWER	TANK FARM	INC. STEAM	INC. SHIP	INC. WWT	TOTAL
NOx	0.5	12.9	0	0	0	0	17.3	0	0	30.7
VOC	84.3	76.8	26.0	46.4	0	1.2	1.2	0	-6.1	229.9
CO	403.1	351.0	0	0	0	0	17.8	0	0	771.8
SO ₂	0.03	0.1	0	0	0	0	0.1	0	0	0.3
PM	6.6	1.1	12.1	6.0	3.8	0	1.1	2.3	0	33.1
PM ₁₀	6.6	1.1	12.1	6.0	2.8	0	1.1	2.3	0	32.1
PM _{2.5}	6.6	1.1	12.1	6.0	0.01	0	1.1	2.3	0	29.3
CO ₂ e	42,947	18,886	0	0	0	0	25,265	0.0	0	87,098

Baseline Actual Average 2010-2011 Emissions (tpy)

POLLUTANTS	CR #1 OX	CR #2 OX	CR #1 PTA	CR #2 PTA	COOLING TOWER	TANK FARM	INC. STEAM	INC. SHIP	INC. WWT	TOTAL
NOx	0.2	2.9	0	0	0	0	0	0	0	3.1
VOC	64.4	48.6	23.6	41.9	0	1.2	0	0	0	179.7
CO	275.1	71.6	0	0	0	0	0	0	0	346.7
SO ₂	0.01	0.03	0	0	0	0	0	0	0	0.04
PM	3.3	0.6	12.9	5.4	2.7	0	0	0	0	24.9
PM ₁₀	3.3	0.6	12.9	5.4	1.9	0	0	0	0	24.2
PM _{2.5}	3.4	0.6	12.9	5.4	0.01	0	0	0	0	22.3
CO ₂ e	38,807	30,987	0	0	0	0	0	0	0	69,793

Step 1 - Project Pollutant Increases Above PSD Significance

POLLUTANTS	VOC	CO	NOx	SO ₂	PM	PM ₁₀	PM _{2.5}	CO ₂ e
TOTAL PTE	229.9	771.8	30.7	0.3	33.1	32.1	29.3	87,098
TOTAL BASELINE	179.7	346.7	3.1	0.04	24.9	24.2	22.3	69,793
DELTA	50.2	425.1	27.6	0.3	8.2	7.9	7.0	17,304
PSD SIGNIFICANCE	40	100	40	40	25	15	10	75,000
ABOVE PSD	Yes	Yes	No	No	No	No	No	No

Table B-1
Project Dragonslayer PSD Emissions Analysis Summary

Step 2 - Facility Netting

POLLUTANTS	VOC	CO	NOx	SO ₂	PM	PM ₁₀	PM _{2.5}	CO ₂ e
Step 1 Delta	50.2	425.1	27.6	0.3	8.2	7.9	7.0	17304.2
Total Contemporaneous	35.8	26.9	N/A	N/A	N/A	N/A	N/A	N/A
Net Emissions	86.1	452.0	27.6	0.3	8.2	7.9	7.0	17304.2
PSD SIGNIFICANCE	40	100	40	40	25	15	10	75,000
ABOVE PSD	Yes	Yes	No	No	No	No	No	No

Contemporaneous Emissions

Project	Year	CO (TPY)	VOC (TPY)
502b10 - CR #1 Ox BR-301A Alternate Water Withdrawl	2008	0.0	0
PTA FIP Project (Permit CS)	2008	0.01	8.24
502b10 - #1 OX/PTA Op Flex	2011	0	0
PTA BHS Filter Project	2012	26.9	27.6
Total	---	26.9	35.8

Re: BP PSD Netting Analysis

Robinson, James C.

Mon 6/17/2013 9:47 AM

PSD

To: brent.pace@bp.com <brent.pace@bp.com>; Doerner, Michael <MDoerner@trcsolutions.com>;

Cc: Barringer, Veronica <barrinv@dhec.sc.gov>; Basil, Elizabeth <basilej@dhec.sc.gov>;

Dear Mr. Pace and Mr. Doerner:

After both internal discussions and discussions with EPA, the Bureau is in agreement with how BP CR has designated its emission units, and understands that these emission units will be the basis of both step one and step two of the PSD netting analysis. Please let me know if you have any other questions or concerns.

Sincerely,

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

On Mon, Jun 10, 2013 at 8:05 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

Hi everyone.

We appreciate your sending us the netting example and spending the time to discuss it. However, we are having difficulty in understanding exactly how to apply the example to our case.

The example seems to show that they are adding emissions units for the emissions increases and showing retiring emissions units and added emission units in the contemporaneous section. The emission unit in the BP Cooper River Title V permit is defined as the entire oxidation unit and lists individual pieces of equipment that are part of the emission unit such as the reactors.

The difficulty we are having is we are only making modifications to an emission unit and removing individual pieces of equipment/vents within an emission unit. We are not retiring entire emission units and installing new entire emission units. For example we are replacing the four existing reactors with a single new reactor or rerouting the existing DHT scrubber to another existing piece of equipment that already vents to the atmosphere. We are removing a few individual pieces of equipment within the emission unit that vent but not any entire emission units.

Do you have any suggestions? We can provide netting very easily with the new projects that have been done in the last five years, but the example provided doesn't seem to fit the model for Step 1 to calculate the emissions from a single piece of equipment within a modified emission unit.

Any guidance would be appreciated!

Brent Pace

On Jun 6, 2013, at 4:39 PM, "Robinson, James C." <robinsjc@dhec.sc.gov> wrote:

As a follow up to the conference call and my email this morning, please provide the netting analysis by COB Thursday, June 13. If you foresee that this will not be enough time, please let me know ASAP. Thanks!

—
James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

On Thu, Jun 6, 2013 at 10:37 AM, Robinson, James C. <robinsjc@dhec.sc.gov> wrote:
Mike, Brent, attached is an example netting analysis. Let me know if you have any questions. Thanks!

—
James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

RE: Additional Information Requested for BP PSD Application

brent.pace@bp.com

Tue 6/25/2013 11:25 AM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>; Thompson, Veronica M <Veronica.Thompson@bp.com>;

Cc: MDoerner@trcsolutions.com <MDoerner@trcsolutions.com>;

James

See below for a brief summary of how we will be going about answering your questions. These will be the topic of our discussion during our call this afternoon to make sure everyone is agreed. A meeting notice will be coming out shortly from Mike with the call in number.

From: Robinson, James C. [<mailto:robinsjc@dhec.sc.gov>]

Sent: Tuesday, June 18, 2013 11:23 AM

To: Pace, Brent A; Doerner, Michael

Cc: Veronica Barringer

Subject: Additional Information Requested for BP PSD Application

Dear Mr. Pace and Mr. Doerner:

In order to continue the review of BP's PSD Application, the following items need to be addressed:

PSD Netting Analysis and Significant Emissions Increases

1. Provide a detailed explanation of how current synthetic minor limits will be addressed, including but not limited to, which specific limits are being removed, why are they being removed, and what is the impact of the removal of the limits in the PSD netting analysis. Note that when removing a PSD Synthetic minor limit on existing equipment, processes, Unit IDs, etc., a review of the entire project that initially avoided PSD needs to be done. **We will be sure that all synthetic minor limits that are being removed are clearly noted. The removal of the synthetic minor limits would increase the future PTE of the units which has been included in the PTE emissions calculations.**

2. Provide a detailed explanation as to whether the 2011 debottleneck project (construction permit 0420-0029-CT) is or is not related to the current proposed PSD project., i.e. a review determining what equipment/unit IDs were included in the 2011 project verses what equipment/unit IDs are included in the proposed PSD project. If the 2011 debottleneck project is related to the current proposed PSD project, BP will need to include the emissions from the

2011 debottleneck project in step one of the PSD netting analysis of the proposed PSD project. The 2011 project (PTA Filter Project) was for changes to the PTA units and did not include any modifications to the OX units. When the filter project was being reviewed and funded, the Dragonslayer project (PSD Project) was not being discussed. The funding for the filter project was completely separate from Dragonslayer and didn't rely on Dragonslayer to justify it. Dragonslayer didn't rely on the filter project to be a viable project.

3. Provide a detailed explanation of why there will be a VOC emissions reduction in the wastewater treatment area. Note that this decrease and any other contemporaneous, creditable decreases and increases must be included in step 2 of the PSD netting analysis. After review of the wastewater changes, there is a potential to have no decrease so we have decided to claim no reductions. There are no modifications of the wastewater treatment area, and therefore, nothing will be included. We will make this change in the application.

4. Provide a detailed explanation of what portion of the incremental boiler use will be designated for steam supply to the turbines. Include a breakdown of the emissions from incremental steam usage. The details of the increased steam demand were included in Table 8 of Appendix B (emission calculations) in the application. About 99% of the increased steam demand is due to the process demands.

Other Items Needed for Preliminary Determination

1. Provide a more detailed description of the proposed changes for the project. For example under the proposed changes in the #1 OX unit, how will BP achieve additional air compressor capacity, additional reactor overhead recovery capacity, improved power recovery in off-gas expander, etc. Some proposed changes need to be defined, i.e. dense phase conveying, direct PX injection, azeotropic distillation, etc. In addition, the proposed changes in the general categories need to be spelled out in as much detail as possible, i.e. specifically what process equipment is being replaced. Additional explanation of the changes will be provided.

2. Provide pre and post project non-confidential process flow diagrams, which include all major equipment, control devices and emission points. For confidential items, BP can use generic names or IDs and provide a cross reference sheet with the confidential names or IDs. Will provide new flow diagrams with more information on the NC process flow diagrams.

3. As Step 1 of the BACT Determination identifies all potential control technologies, BP needs to include every control technology found in the BACT search, and go through the BACT analysis for each. For example, a flare and "IFR tanks" were listed as control methods for the VOC Emissions search; however, they were not listed in Step 1 or any other part of the BACT Determination. IFR tanks are not a control technology for a process but for storage tanks and none of the modifications requiring a BACT analysis were tanks. We will add flare to the list. It will be technically infeasible in several cases and technically feasible for others.

4. Provide detailed control technology descriptions for each control technology considered in the technical feasibility sections of the BACT Analysis. BP should explain why each control technology is technically feasible or infeasible. **Will add further explanation to the write-up.**

5. As there is no "Bright Line" cost effectiveness threshold for control options, additional information needs to be provided for the control options which have been excluded solely for being less than \$10,000. Cost effectiveness should be based on comparisons of similar facilities and/or processes. BP can also use energy analysis or environmental analysis to eliminate a control option as BACT. **Only one BACT analysis had control options less than \$10,000 per ton where none were chosen as BACT. In this case the options less than \$10,000 were eliminated based on environmental analysis. Additional language will be added to make it clearer.**

Sincerely,

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

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FW: Additional Information Requested for BP PSD Application

REPLY REPLY ALL FORWARD

Robinson, James C.

Thu 7/11/2013 5:06 PM

Mark as unread

To: brent.pace@bp.com;

Cc: MDoerner@trcsolutions.com;

Yeah I have the same factor. I thinks it's just a conversion difference for HP to lb/MM BTU.

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

On Thu, Jul 11, 2013 at 3:55 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

James

Here is information on CO2e. Please let me know if this answers your question.

Brent

From: Doerner, Michael [mailto:MDoerner@trcsolutions.com]
Sent: Thursday, July 11, 2013 11:41 AM
To: Pace, Brent A
Subject: RE: Additional Information Requested for BP PSD Application

Brent;

Here is explanation for GHG emissions. Can decide if you want to send to James.

GHG Emissions – Combustion

GHG Emission Factors

(Emission factors from 40 CFR 98 Subpart C Table C-1)

CO2
Kg/MM Btu

CH4
Kg/MM Btu

N2O
Kg/MM Btu

CO2e
*

Heat value

lb/MM

GWP **	1	21	310	---		Btu
Natural Gas	53.02	0.001	0.0001	120,278.6	1028	117.0
#2 Fuel Oil	73.96	0.003	0.0006	22,577.0	138,000	163.6
#4 Fuel Oil	75.04	0.003	0.0006	24,233.4	146,000	166.0
#6 Fuel Oil	75.10	0.003	0.0006	24,917.2	150,000	166.1

CO2e = (CO2 EF + CH4 EF x GWP + N2O EF x GWP) x 2.204 lb/kg = lbs CO2 e

** GWP (Global Warming Potential) factors are from 40 CFR 98 Subpart A table A-1.

* Units are Lbs/ MM SCF for gas and lbs/M gal for distillate

Process Stream GHG Emissions

Process GHG emissions are based on composition of the streams which do not contain N2O and have very little CH4. The CO2e numbers use the composition and GWP to calculate the stream CO2e which is shown in the emission calculation table.

Michael A. Doerner
Air Quality Specialist



MDoerner@trcsolutions.com

30 Patewood Dr., Greenville, SC 29615

T: 864.234.9481 | F: 864.281.0288 | C: 864.884.2683

[LinkedIn](#) | [Twitter](#) | [Blog](#) | [Flickr](#) | www.trcsolutions.com

From: Robinson, James C. [<mailto:robinsjc@dhec.sc.gov>]

Sent: Wednesday, July 10, 2013 4:34 PM

To: Pace, Brent A

Cc: Doerner, Michael

Subject: Re: Additional Information Requested for BP PSD Application

Brent, here is the list of items we discussed today...

- CO₂e calculations look like they are just from CO₂. Please take a look at these.
- Where can I find BP Calcs/Vendor Data?
- What are the dates of each source test used as the emission factor for emissions calculations?

- Where can I find SARA/US EPA Data?

James C. Robinson, P.E.

Environmental Engineer

BAQ/Engineering Services Division

2600 Bull St., Columbia, SC 29201

Ph: 803-898-0660 Fax: 803-898-4079

Re: Call today

brent.pace@bp.com

Sat 9/7/2013 8:30 AM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>;

That sounds great.

Brent Pace

On Sep 6, 2013, at 9:11 AM, "Robinson, James C." <robinsjc@dhec.sc.gov> wrote:

Hey Brent, forgot to call/email you on Wednesday. When you guys are a week or so out from submitting the revised application, please send an email to let us know. Thanks!

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

On Wed, Aug 28, 2013 at 5:23 PM, Robinson, James C. <robinsjc@dhec.sc.gov> wrote:

Ok, it's no problem. I have plenty to keep me busy until then. Thanks for the update!

James C. Robinson, P.E.
Environmental Engineer
BAQ/Engineering Services Division
2600 Bull St., Columbia, SC 29201
Ph: 803-898-0660 Fax: 803-898-4079

On Wed, Aug 28, 2013 at 5:11 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

> Not yet. We are getting closer though! I feel like I sound like a broken record!

>

> Brent Pace

>

> On Aug 28, 2013, at 5:05 PM, "Robinson, James C." <robinsjc@dhec.sc.gov> wrote:

>

>> Hey Brent, I forgot to give you a call today. Any updates?

>>

>> ---

>> James C. Robinson, P.E.

>> Environmental Engineer

>> BAQ/Engineering Services Division

>> 2600 Bull St., Columbia, SC 29201

>> Ph: 803-898-0660 Fax: 803-898-4079

>>

>>

>> On Wed, Aug 21, 2013 at 1:19 PM, Robinson, James C.

>> <robinsjc@dhec.sc.gov> wrote:

>>> Ok thanks.

>>>
>>>
>>> ---
>>> James C. Robinson, P.E.
>>> Environmental Engineer
>>> BAQ/Engineering Services Division
>>> 2600 Bull St., Columbia, SC 29201
>>> Ph: 803-898-0660 Fax: 803-898-4079
>>>
>>>
>>> On Wed, Aug 21, 2013 at 1:17 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:
>>>>
>>>> No need for a call today but we are getting closer. Should have some more
>>>> information next week.
>>>>
>>>> Brent Pace
>>>>
>>>> On Aug 21, 2013, at 1:07 PM, "Robinson, James C." <robinsjc@dhec.sc.gov>
>>>> wrote:
>>>>
>>>> Hey Brent, are there any updates where we need a call today?
>>>>
>>>> ---
>>>> James C. Robinson, P.E.
>>>> Environmental Engineer
>>>> BAQ/Engineering Services Division
>>>> 2600 Bull St., Columbia, SC 29201
>>>> Ph: 803-898-0660 Fax: 803-898-4079
>>>>
>>>>
>>>> On Wed, Jul 31, 2013 at 4:53 PM, Robinson, James C. <robinsjc@dhec.sc.gov>
>>>> wrote:
>>>>>
>>>>> OK, no problem. Thanks!
>>>>>
>>>>>
>>>>> ---
>>>>> James C. Robinson, P.E.
>>>>> Environmental Engineer
>>>>> BAQ/Engineering Services Division
>>>>> 2600 Bull St., Columbia, SC 29201
>>>>> Ph: 803-898-0660 Fax: 803-898-4079
>>>>>
>>>>>
>>>>> On Wed, Jul 31, 2013 at 4:27 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:
>>>>>>
>>>>>> That works. Might not be much of an update but lets at least chat.
>>>>>>
>>>>>>
>>>>>>
>>>>>> From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]
>>>>>> Sent: Wednesday, July 31, 2013 4:17 PM
>>>>>>
>>>>>>
>>>>>> To: Pace, Brent A
>>>>>> Subject: Re: Call today
>>>>>>
>>>>>>
>>>>>> 2 pm would be better if you don't mind.
>>>>>>
>>>>>>
>>>>>> ---
>>>>>>
>>>>>> James C. Robinson, P.E.

>>>>>
>>>>> Environmental Engineer
>>>>>
>>>>> BAQ/Engineering Services Division
>>>>>
>>>>> 2600 Bull St., Columbia, SC 29201
>>>>>
>>>>> Ph: 803-898-0660 Fax: 803-898-4079
>>>>>
>>>>>
>>>>>
>>>>> On Wed, Jul 31, 2013 at 3:03 PM, Pace, Brent A <Brent.Pace@bp.com>
>>>>> wrote:
>>>>>
>>>>> How about 130 pm?
>>>>>
>>>>>
>>>>>
>>>>> From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]
>>>>> Sent: Wednesday, July 31, 2013 2:53 PM
>>>>> To: Pace, Brent A
>>>>> Subject: Re: Call today
>>>>>
>>>>>
>>>>>
>>>>> Ok Brent, that is fine. Any particular time?
>>>>>
>>>>>
>>>>> ---
>>>>>
>>>>> James C. Robinson, P.E.
>>>>>
>>>>> Environmental Engineer
>>>>>
>>>>> BAQ/Engineering Services Division
>>>>>
>>>>> 2600 Bull St., Columbia, SC 29201
>>>>>
>>>>> Ph: 803-898-0660 Fax: 803-898-4079
>>>>>
>>>>>
>>>>>
>>>>> On Wed, Jul 31, 2013 at 2:23 PM, Pace, Brent A <Brent.Pace@bp.com>
>>>>> wrote:
>>>>>
>>>>> James
>>>>>
>>>>>
>>>>>
>>>>> Let's talk tomorrow. I doubt we will be submitting anything this week.
>>>>> We are still assessing the project. Just wanted to keep you updated.
>>>>>
>>>>>
>>>>>
>>>>> Brent
>>>

Additional Information Requested for BP PSD Application

REPLY

REPLY ALL

FORWARD

brent.pace@bp.com

Mark as unread

Fri 8/2/2013 1:22 PM

To: Robinson, James C.;

Cc: Doerner, Michael <MDoerner@trcsolutions.com>;

James

The latest information is that it will be at least 3 weeks before we have a decision on the next steps for the project, so we are currently on hold.

Thanks

Brent

Re: Additional Information Requested for BP PSD Application

DELETE

REPLY

REPLY ALL

FORWARD

Robinson, James C.

Mark as unread

Thu 8/1/2013 2:29 PM

PSD

To: brent.pace@bp.com;

Cc: Doerner, Michael <MDoerner@trcsolutions.com>;

As a follow up to BACT determinations (Preliminary and Final Determinations) and application discussions, here are a few good and recent examples for South Carolina that you could FOI. Showa Denko (Dorchester Co.), AGY, LLC (Aiken Co.) [especially for cost analysis], Simpson Lumber Company, LLC (Georgetown Co.), and New South Companies (Horry County).

James C. Robinson, P.E.

Environmental Engineer

BAQ/Engineering Services Division

2600 Bull St., Columbia, SC 29201

Ph: 803-898-0660 Fax: 803-898-4079

Re: FW: BP CR PSD Application

Robinson, James C.

Wed 1/22/2014 1:12 PM

PSD

To: brent.pace@bp.com <brent.pace@bp.com>;

Hey Brent, I will respond to you ASAP, hopefully tomorrow.

James C. Robinson, P.E.
Environmental Engineer
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On Mon, Jan 20, 2014 at 4:30 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

James

Take a look at these answers. After you read, let me know if you are good with our changes that we will make, or if we need to chat. There may be one or two that aren't clear.

Brent A. Pace, P.E.

Environmental Engineer / OMS Coordinator

brent.pace@bp.com

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From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]

Sent: Friday, January 10, 2014 10:37 AM

To: Pace, Brent A

Subject: Re: FW: BP CR PSD Application

Hey Brent, email is a good idea. Will can still discuss if need be. Here are some of my thoughts on the draft. My apologies

for not getting this to you yesterday.

1. Make sure there is a clear explanation for the differences in capital cost for the same control devices.
2. Each BACT limit will need clearly proposed monitoring, recordkeeping, and reporting requirements.
3. Page 4-2 (Flare description), please provide more detail on the minimum BTU value to maintain combustion and how this relates to the feasibility of this control option. This should be done under the technical feasibility section.
4. Page 4-2, the last sentence of the Flare description may need to be reworded. Having difficulty understanding this sentence the way it is worded.
5. Pages 4-4 to 4-5 (Elimination of Infeasible Control Options), there seems to a missing section or wording.
6. Page 4-6, the baseline VOC emissions are not consistent with the PTE on p. 4-3.
7. Page 4-8, is the US EPA technology fact sheet(s) included in the application. (Note: In general, all referenced documents should either be included in the application or cited where the document can be found.)
8. Pages 4-11 thru 4-14, would be helpful to include reference to CTO with HPVGTS throughout.
9. Page 4-20, Section 4.5, there is no discussion of PTE.
10. Page 4-25, baseline emissions not consistent with PTE emissions.
11. Page 4-27, proposed BACT limits are not consistent with PTE nor baseline emissions.
12. Page 4-27, explanation of why monitoring is not needed is not clear.
13. Page 4-30, ACE discussion has clearly understood language. This should be used in all BACT analysis sections.

14. FYI, there may be initial testing and shorter testing time frames for each BACT limit.

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On Wed, Dec 18, 2013 at 4:54 PM, Robinson, James C. <robinsjc@dhec.sc.gov> wrote:

Brent, my apologies, I did not have a chance to look at this today. I will make it a priority tomorrow.

James C. Robinson, P.E.

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On Tue, Dec 17, 2013 at 4:45 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

Sounds great!

Brent A. Pace, P.E.

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From: Robinson, James C. [mailto:robinsjc@dhec.sc.gov]
Sent: Tuesday, December 17, 2013 4:33 PM
To: Pace, Brent A
Subject: Re: FW: BP CR PSD Application

Hey Brent thanks! I will take a look at these pages and give you a call tomorrow afternoon.

James C. Robinson, P.E.

Environmental Engineer

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On Tue, Dec 17, 2013 at 9:32 AM, Pace, Brent A <Brent.Pace@bp.com> wrote:

James

Per my voicemail, please find the attached pages for your review. These are pages that you had asked to have some changes made. After you give the general thumbs up to these, we will resubmit the whole PSD permit application to you. Look forward to hearing from you.

Brent A. Pace, P.E.

Environmental Engineer / OMS Coordinator

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From: Doerner, Michael [mailto:MDoerner@trcsolutions.com]
Sent: Friday, December 06, 2013 4:11 PM
To: Pace, Brent A
Subject: RE: BP CR PSD Application

Here are the pages to send to James.

Michael A. Doerner
Air Quality Specialist



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RE: BP Amoco Revised Application Questions

brent.pace@bp.com

Wed 4/9/2014 10:39 AM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>;

Cc: Doerner, Michael (MDoerner@trcsolutions.com) <MDoerner@trcsolutions.com>;

James

Please see below the summary of our two telephone conversations. I believe that we have satisfied each question, but we do need to update Table 2.5.1 and send to you replacement pages.

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From: Robinson, James C. [<mailto:robinsjc@dhec.sc.gov>]

Sent: Monday, March 17, 2014 10:35 AM

To: Pace, Brent A

Subject: BP Amoco Revised Application Questions

Brent, I have looked over the application to see if the requested items were addressed, and had a few more questions.

1. Section 4.3.2 – Explanation of why the flare is technically infeasible is not clear. Discussed why a control device cannot be placed at the end of a flare making a flare infeasible.
2. Which tables in Appendix B specifically include or show the increased PTE due to the removal of the synthetic minor limits? As discussed, Table 2.4.1 describes this.
3. Why is there a difference in purchase cost for the same control device? I also wanted to have a general discussion of Appendix D when I started an in depth review of this section.

There is a calculation that happens based on the flow rate. See example below.

Appendix D Cost Estimation

An example of how use EPA Cost manual

The purchased equipment cost for an RTO Cost = 220400 + 11.57Q

Where Q = Flue Gas (which includes the inlet gas plus fuel & combustion air)
This will give the cost in 1998\$ which then have to be adjusted for inflation to present day cost.

Based on the above and inflation would calculate a cost of about \$430,000 for the equipment for the LPA RTO.

The remainder of the equipment, installation and other items is based on the QAQPS document worksheet

Cost Item Factor

Direct Costs

Purchased equipment costs	
Incinerator (EC) + auxiliary equipment _a	As estimated, A
Instrumentation _b	0.10 A
Sales taxes	0.03 A
Freight	0.05 A
Purchased equipment cost, PEC	B = 1.18 A

Direct installation costs

Foundations & supports	0.08 B
Handling & erection	0.14 B
Electrical	0.04 B
Piping	0.02 B
Insulation for ductwork _c	0.01 B
Painting	0.01 B
Direct installation costs	0.03 B
Site preparation As required,	SP
Buildings As required,	Bldg.

Total Direct Costs, DC 1.30 B + SP + Bldg.

Indirect Costs (installation)

Engineering	0.10 B
Construction and field expenses	0.05 B
Contractor fees	0.10 B
Start-up	0.02 B
Performance test	0.01 B
Contingencies	0.03 B
Total Indirect Costs, IC	0.31 B

Total Capital Investment = DC + IC 1.61 B + SP + Bldg.

They have similar cost estimation tolls for the other control schemes.

4. There was suppose to be a table in Section 7 discussing CAM monitoring but Section 7 discusses Title V permit revisions. We discussed the table that Table 2.5.1 and Table 2.5.2 adequately describes the monitoring, except for the additions that will be added about stack testing for the Low Pressure Absorber.

5. The application states that there will be no monitoring of BACT limits in certain instances. How does BP plan to

ensure that all short term (lb/hr) and long term (tpy) BACT limits will be met?

For the Low Pressure Absorber that states “none” for monitoring, BP will submit a revision that includes stack testing as the measure for CO compliance with short term and long term limits.

Here is the revised Table 2.5.1

Revised Table 2.5.1

The table will be corrected as shown below with yellow highlights.

Table 2.5.1
BACT Monitoring Parameters

UNIT	EMISSION POINT	POLLUTANT	PARAMETER 1 MONITORED	PARAMETER 2 MONITORED
#1 OX	LPA	VOC	Scrubbing Liquid Fluid Flow	Scrubber Top Temperature
	HPVGTS	VOC	Reactor Inlet Temperature	Reactor Outlet Temperature
	Equipment Fugitives	VOC	HON LDAR Monitoring program	N/A
#2 OX	LPA	VOC	Scrubbing Liquid Fluid Flow	Scrubber Top Temperature
	HPVGTS	VOC	Reactor Inlet Temperature	Reactor Outlet Temperature
	Equipment Fugitives	VOC	HON LDAR Monitoring program	N/A
#1 PTA	Crystallizer Vent Scrubber	VOC	Specialized Performance Test every 5 years	N/A
#2 PTA	Crystallizer Vent Scrubber	VOC	Specialized Performance Test every 5 years	N/A
#1 OX	LPA	CO	Performance Test every 3 years	N/A
	HPVGTS	CO	Reactor Inlet Temperature	Reactor Outlet Temperature
#2 OX	LPA	CO	Performance Test every 3 years	N/A
	HPVGTS	CO	Reactor Inlet Temperature	Reactor Outlet Temperature

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Re: BP CR PSD Application - Appendix B

Robinson, James C.

Fri 5/23/2014 11:50 AM

PSD

To: brent.pace@bp.com <brent.pace@bp.com>;

Thanks Brent!

James C. Robinson, P.E.
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On Fri, May 23, 2014 at 9:55 AM, Pace, Brent A <Brent.Pace@bp.com> wrote:

James

Please see the requested Appendix B Excel workbook.

Brent

Re: Table 2 4 1 Question (2).xlsx

Robinson, James C.

Fri 5/23/2014 5:00 PM

PSD

To: brent.pace@bp.com <brent.pace@bp.com>;

Ok, I will go with the original language in Construction Permit CF, since the TV Permit has not been issued yet. I see that there are several units included in this emission limit. BP will need to address all the units that were covered under this limit.

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On Thu, May 22, 2014 at 3:47 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

The condition 5.E.31 was a suggested addition to the permit in the February 2012 Title V Renewal submitted to the agency. This was a suggested addition to Title V to recognize the condition in the construction permit that was never included in the Title V permit.

Brent Pace

On May 22, 2014, at 11:57 AM, "Robinson, James C." <robinsjc@dhec.sc.gov> wrote:

Ok, I appreciate that. Did you see my previous email about 5.E.31?

James C. Robinson, P.E.
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On Thu, May 22, 2014 at 11:17 AM, Pace, Brent A <Brent.Pace@bp.com> wrote:

Yep. It will be coming to you shortly. I want to make sure the latest and greatest is in your hands.

Brent Pace

On May 22, 2014, at 10:51 AM, "Robinson, James C." <robinsjc@dhec.sc.gov> wrote:

Hey Brent, don't forget to send excel calculations for application. Thanks!

James C. Robinson, P.E.
Environmental Engineer

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On Wed, May 21, 2014 at 5:43 PM, Robinson, James C. <robinsjc@dhec.sc.gov> wrote:
Brent, I don't see a condition 5.E.31 in the Title V permit. The last condition is 5.E.30.

James C. Robinson, P.E.
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On Wed, May 21, 2014 at 4:39 PM, Robinson, James C. <robinsjc@dhec.sc.gov> wrote:
Thanks Brent! This is perfect!

James C. Robinson, P.E.
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On Wed, May 21, 2014 at 3:49 PM, Pace, Brent A <Brent.Pace@bp.com> wrote:

James

Please find attached the Table 2.4.1 with the Title V permit condition and the permit that set the limit.

Hope this helps.

Brent

Emission Point	Pollutant	Previous PSD Avoidance Limits	Requested BACT/PSD Limits (TPY)	Short Term BACT/PSD Limits (Lb/hr)	Title V permit Condition	Construction Permit
#1 OX LPA	VOC	80 tpy and 40 lb/hr	42	12	5.E.4	0420-0029 - CP
	CO	40 tpy	18	5	5.E.4	0420-0029 - CP
#1 DHT Scrubber	VOC	165 tpy and 60 lb/hr	N/A – no longer vents to atmosphere		5.E.4	0420-0029 - CR
#1 HPVGTS	VOC	80 tpy and 85 lb/hr	20.5	6	5.E.4	0420-0029 - CP
	CO	375 tpy and 1,452 lb/hr	385	106	5.E.4	0420-0029 - CP
#1 PTA Crystallizer Vent Scrubber	VOC	None	87.6	25	N/A	N/A
	CO	None	28.5	8	N/A	N/A
#2 LPA	VOC	215.9 tpy and 49.3 lb/hr	38.8	11	5.E.31	0420-0029 - CF
#2 OXHPVGTS			15.3	5		
#2 PTA Crystallizer Vent Scrubber			87.6	24		
#2 LPA	CO	None	15.2	5	N/A	N/A
#2 OXHPVGTS			329	90		
#2 PTA Crystallizer Vent Scrubber			28.5	8		
Combined total for #1 OX and #2 OX, #1 PTA and #2 PTA	VOC	1,825 tpy	Replaced by individual vent limits		5.E.5	original - 3/1/1996 DHEC letter (Title V Application)* Revised 0420-0029 - CP

* From 2000 Title V Application "Cooper River also requests that the facility wide cap of 2468 TPY contained in the DHEC letter of November 2, 1998 be continued instead of process unit specific limits."

Just a note

brent.pace@bp.com

Fri 5/30/2014 2:32 PM

PSD

To: Robinson, James C. <robinsjc@dhec.sc.gov>;

I was wrong about the uncontrolled and controlled tables (tables b-8 and above). Those are only there because the SCDHEC forms require us to state what the uncontrolled and controlled emissions are. They have nothing to do with table b-1. But is the data for the required dhec forms. Tables b-2 through b-7 are the data that support table b-1.

Talk to you on Monday.

Brent Pace